

REMARKS

The specification has been amended to recite several features shown in the drawing, thereby providing explicit antecedent basis for language in amended and newly added claims.

Claim 1 has been amended to conform the language more closely to the language of the specification, and to define more clearly over the art of record. More particularly, the flow connection is now recited as an unimpeded flow connection which communicates freely with the interior of the bellows and with the atmosphere.

Claims 1-8 stand rejected as anticipated by Binder et al. U.S. 2,163,255. To the extent that this reference would be applied against claims as presently amended, such rejection is traversed for the reasons following.

Binder et al. discloses a shock absorber including a piston rod extending from a cylinder, a mounting bearing through which an end of the piston rod is received, and a bellows surrounding the section of piston rod extending from the cylinder. The bellows not only protects the piston rod, but contains any damping medium leaking from the seal so that it flows back into a storage container 17 via ducts 21 and 22.

A flow connection 25, 26 is provided between the interior 20 of the bellows and the atmosphere. This connection is provided with an equalizing device 27 having oppositely acting check valves 29, 30. These valves remain closed during normal oscillations, and open only when large pressure variations resulting from a change in load on the vehicle occur. This prevents the continuous entry of contaminants which could mix with damping medium leaking through the seal and circulated back to the lower end of cylinder 14, ultimately causing the shock absorber to fail.

The check valves also prevent damping medium from evaporating or otherwise escaping from the flow connection 25, 26.

Since the equalizing device 27 is necessary to prevent the shock absorber of Binder et al. from failing, it cannot be obvious to remove it to create an unrestricted flow connection as recited in applicants' claim 1. Contamination of damping medium is not a concern with applicants' piston-cylinder assembly, because modern seals do not have a leakage problem and recirculation of leaking medium is not necessary.

The elimination of check valves which only open during large pressure changes offers the advantage that the bellows according to the invention only needs to be heavy enough to protect the exposed section of piston rod. The bellows of Binder et al., on the other hand, must be sufficiently heavy to prevent partial collapse during negative pressures which are not quite sufficient to open the valve 30. This can limit the stroke of the piston-cylinder assembly and thus unfavorably affect its operation.

Since Binder et al. neither discloses nor suggests an unimpeded flow connection, claim 1 as presently amended is believed to define patentably over the art of record.

Claims 4 and 5 have been amended to provide structural detail, and recite structure which is not suggested by the art of record. Newly submitted claims 9-12 also recite features which are not suggested by the art of record.

The claims being definite and patentable over the art of record, withdrawal of the rejections and early allowance are solicited.

It is believed that no fees or charges are required at this time in connection with the present application; however, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

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